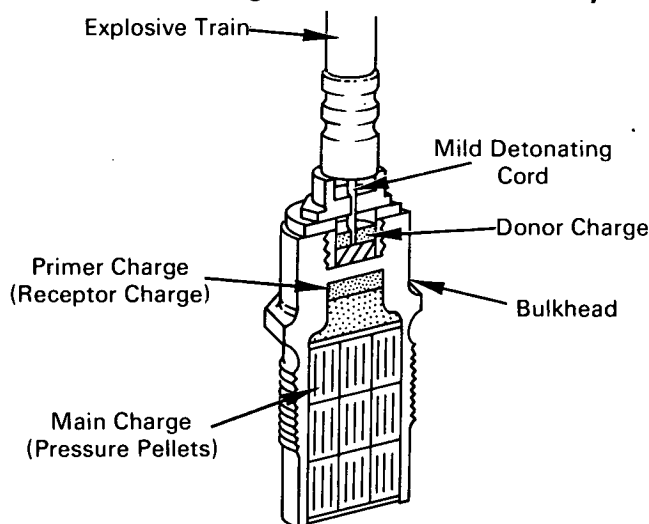


NASA TECH BRIEF



NASA Tech Briefs are issued to summarize specific innovations derived from the U.S. space program, to encourage their commercial application. Copies are available to the public at 15 cents each from the Clearinghouse for Federal Scientific and Technical Information, Springfield, Virginia 22151.

Explosive-Train Initiated through Solid Bulkhead by Pressure Cartridge



(TYPICAL THROUGH-BULKHEAD TYPE)

The problem:

To ignite a main charge of explosive through a solid bulkhead without destroying or damaging the seal or the bulkhead. Existing methods require precise electrical sequencing for ignition of a pressure cartridge at a specific time.

The solution:

An explosive-train initiated pressure cartridge, which transmits a shock wave through a solid bulkhead.

How it's done:

During ignition, the explosive-train initiated pressure cartridge activates the detonating cord, which ignites the donor charge or booster. The resulting shock wave travels through the steel bulkhead to ignite the primer charge (receptor charge), which in turn ignites the main charge. In this case the main charge consists of pressure pellets, which generate a gas pressure.

Notes:

1. Depending on its purpose, the main charge could be an explosive, a pyrotechnic, or a propellant.
2. Inquiries concerning this innovation may be directed to:

Technology Utilization Officer
Manned Spacecraft Center
Houston, Texas 77058
Reference: B67-10589

Patent status:

No patent action is contemplated by NASA.

Source: J. C. Wilkowski
of North American Aviation
under contract to
Manned Spacecraft Center
(MSC-11395)

Category 03



NASA TECH BRIEF

NASA is a federal agency established by the National Aeronautics and Space Act of 1958 to carry out the national space program. It is the only federal agency that is not a part of the executive branch of the government. It is the only federal agency that is not a part of the legislative branch of the government. It is the only federal agency that is not a part of the judicial branch of the government. It is the only federal agency that is not a part of the military establishment of the United States.

Explosive Train Initiated through Solid Rocket by Pressure Cartridge



FIGURE 1. Explosive Train Initiation System

The explosive train is initiated by the pressure cartridge which is located in the solid rocket motor. The pressure cartridge is a small device which is used to initiate the explosive train. It is a small device which is used to initiate the explosive train. It is a small device which is used to initiate the explosive train.

Dr. J. C. Wilcox
NASA Langley Research Center
Hampton, Virginia 23060

Product Name

The product name is "Explosive Train Initiation System".

Source: J. C. Wilcox
NASA Langley Research Center
Hampton, Virginia 23060
under contract to
Manned Spacecraft Center
(MSC-11305)

(Category 0)

The problem was to initiate the explosive train in a solid rocket motor. The explosive train is a series of explosive devices which are connected in a line. The explosive train is initiated by the pressure cartridge which is located in the solid rocket motor. The pressure cartridge is a small device which is used to initiate the explosive train. It is a small device which is used to initiate the explosive train.

The solution

The explosive train is initiated by the pressure cartridge which is located in the solid rocket motor. The pressure cartridge is a small device which is used to initiate the explosive train. It is a small device which is used to initiate the explosive train.

How it's done

During ignition, the explosive train is initiated by the pressure cartridge which is located in the solid rocket motor. The pressure cartridge is a small device which is used to initiate the explosive train. It is a small device which is used to initiate the explosive train.